

EPA I.D. NUMBER (copy from Item 1 of Form I)

FORM
2B
NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER
CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES

I. GENERAL INFORMATION

Applying for: Individual Permit

Coverage Under General Permit

A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
<input checked="" type="checkbox"/> 1. Concentrated Animal Feeding Operation (complete items B, C, D; and section II) <input type="checkbox"/> 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Owner/or Operator Name: Murphy-Brown LLC Telephone: (804) 834-2109 Address: P.O. Box 1240 Facsimile: (804) 834-8926 City: Waverly State: VA Zip Code: 23890	<input checked="" type="checkbox"/> 1. Existing Facility <input type="checkbox"/> 2. Proposed Facility
D. FACILITY INFORMATION Name: Murphy-Brown LLC Farm 16 and 17 Telephone: (804) 834-2109 Address: 1617 Huntingdon Road Facsimile: (804) 834-8926 City: Waverly State: Virginia Zip Code: 23890 County: Sussex Latitude: 37 deg. 07 min. 11 sec. Longitude: 77 deg. 03 min. 51 sec.		
If contract operation: Name of Integrator: N/A Address of Integrator: N/A		

II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS

A. TYPE AND NUMBER OF ANIMALS			B. MANURE, LITTER, AND/OR WASTEWATER PRODUCTION AND USE
1. TYPE	2. ANIMALS		
	NO. IN OPEN CONFINEMENT	NO. HOUSED UNDER ROOF	
<input type="checkbox"/> Mature Dairy Cows			
<input type="checkbox"/> Dairy Heifers			
<input type="checkbox"/> Veal Calves			
<input type="checkbox"/> Cattle (not dairy or veal calves)			
<input checked="" type="checkbox"/> Swine (55 lbs. or over)		14,700	
<input checked="" type="checkbox"/> Swine (under 55 lbs.)		6,300	
<input type="checkbox"/> Horses			
<input type="checkbox"/> Sheep or Lambs			
<input type="checkbox"/> Turkeys			
<input type="checkbox"/> Chickens (Broilers)			
<input type="checkbox"/> Chickens (Layers)			
<input type="checkbox"/> Ducks			
<input type="checkbox"/> Other: Specify _____			
3. TOTAL ANIMALS		21,000	

C. <input checked="" type="checkbox"/> TOPOGRAPHIC MAP		
D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY		
1. Type of Containment	Total Capacity (in gallons)	
<input type="checkbox"/> Lagoon		
<input type="checkbox"/> Holding Pond		
<input type="checkbox"/> Evaporation Pond		
<input type="checkbox"/> Other: Specify _____		
2. Report the total number of acres contributing drainage: 211	acres	
3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)
<input checked="" type="checkbox"/> Anaerobic Lagoon	180	55,524,004 gals.
<input type="checkbox"/> Storage Lagoon		
<input type="checkbox"/> Evaporation Pond		
<input type="checkbox"/> Aboveground Storage Tanks		
<input type="checkbox"/> Belowground Storage Tanks		
<input type="checkbox"/> Roofed Storage Shed		
<input type="checkbox"/> Concrete Pad		
<input type="checkbox"/> Impervious Soil Pad		
<input type="checkbox"/> Other: Specify _____		
E. NUTRIENT MANAGEMENT PLAN		
Note: Effective February 27, 2009, a permit application is not complete until a nutrient management plan is submitted to the Permitting Authority.		
1. Please indicate whether a nutrient management plan has been included with this permit application. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
2. If no, please explain:		
3. Is a nutrient management plan being implemented for the facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
4. The date of the last review or revision of the nutrient management plan. Date: 07/20/12		
5. If not land applying, describe alternative use(s) of manure, litter, and/or wastewater:		
F. LAND APPLICATION BEST MANAGEMENT PRACTICES		
Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:		
<input checked="" type="checkbox"/> Buffers <input checked="" type="checkbox"/> Setbacks <input checked="" type="checkbox"/> Conservation tillage <input type="checkbox"/> Constructed wetlands <input type="checkbox"/> Infiltration field <input checked="" type="checkbox"/> Grass filter <input type="checkbox"/> Terrace		

III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS						
A. For each outfall give the maximum daily flow, maximum 30-day flow, and the long-term average flow.				B. Indicate the total number of ponds, raceways, and similar structures in your facility.		
1. Outfall No.	2. Flow (<i>gallons per day</i>)			1. Ponds	2. Raceways	3. Other
	a. Maximum Daily	b. Maximum 30 Day	c. Long Term Average	C. Provide the name of the receiving water and the source of water used by your facility.		
			1. Receiving Water		2. Water Source	
D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.						
1. Cold Water Species				2. Warm Water Species		
a. Species	b. Harvestable Weight (<i>pounds</i>)			a. Species	b. Harvestable Weight (<i>pounds</i>)	
	(1) Total Yearly	(2) Maximum			(1) Total Yearly	(2) Maximum
E. Report the total pounds of food during the calendar month of maximum feeding.				1. Month	2. Pounds of Food	
IV. CERTIFICATION						
<p><i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i></p>						
A. Name and Official Title (<i>print or type</i>) Kraig Westerbeek - Assistant Vice President of Environment, Health, & Safety				B. Telephone (<u>910</u>) <u>293-3434</u>		
C. Signature				D. Date Signed <u>4-8-13</u>		

INSTRUCTIONS

<p>GENERAL</p> <p>This form must be completed by all applicants who check "yes" to Item II-B in Form 1. Not all animal feeding operations or fish farms are required to obtain NPDES permits. Exclusions are based on size and whether or not the facility discharges proposed to discharge. See the description of these exclusions in the CAFO regulations at 40 CFR 122.23.</p> <p>For aquatic animal production facilities, the size cutoffs are based on whether the species are warm water or cold water, on the production weight per year in harvestable pounds, and on the amount of feeding in pounds of food (<i>for cold water species</i>). Also, facilities which discharge less than 30 days per year, or only during periods of excess runoff (<i>for warm water fish</i>) are not required to have a permit.</p> <p>Refer to the Form 1 instructions to determine where to file this form.</p> <p>Item I-A</p> <p>See the note above to be sure that your facility is a "concentrated animal feeding operation" (CAFO).</p> <p>Item I-B</p> <p>Use this space to give owner/operator contact information.</p> <p>Item I-C</p> <p>Check "proposed" if your facility is not now in operation or is expanding to meet the definition of a CAFO in accordance with the CAFO regulations at 40 CFR 122.23.</p> <p>Item I-D</p> <p>Use this space to give a complete legal description of your facility's location including name, address, and latitude/longitude. Also, if a contract grower, the name and address of the integrator.</p> <p>Item II</p> <p>Supply all information in item II if you checked (1) in item I-A.</p> <p>Item II-A</p> <p>Give the maximum number of each type of animal in open confinement or housed under roof (either partially or totally) which are held at your facility for a total of 45 days or more in any 12 month period. Provide the total number of animals confined at the facility.</p> <p>Item II-B</p> <p>Provide the total amount of manure, litter, and wastewater generated annually by the facility. Identify if manure, litter, and wastewater generated by the facility is to be land applied and the number of acres, under the control of the CAFO operator, suitable for land application. If the answer to question 3 is yes, provide the estimated annual quantity of manure, litter, and wastewater that the applicant plans to transfer off-site.</p> <p>Item II-C</p> <p>Check this box if you have submitted a topographic map of the entire operation, including the production area and land under the operational control of the CAFO operator where manure, litter, and/or wastewater are applied with Form 1.</p>	<p>Item II-D</p> <ol style="list-style-type: none"> 1. Provide information on the type of containment and the capacity of the containment structure (s). 2. The number of acres that are drained and collected in the containment structure (s). 3. Identify the type of storage for the manure, litter, and/or wastewater. Give the capacity of this storage in days. <p>Item II-E</p> <p>Provide information concerning the status of submitting a nutrient management plan for the facility to complete the application. In those cases where the nutrient management plan has not been submitted, provide an explanation. If not land applying, describe the alternative uses of the manure, litter, and wastewater (e.g., composting, pelletizing, energy generation, etc.).</p> <p>Item III</p> <p>Supply all information in Item III if you checked (2) in Item I-A.</p> <p>Item III-A</p> <p>Outfalls should be numbered to correspond with the map submitted in Item XI of Form 1. Values given for flow should be representative of your normal operation. The maximum daily flow is the maximum measured flow occurring over a calendar day. The maximum 30-day flow is the average of measured daily flow over the calendar month of highest flow. The long-term average flow is the average of measure daily flows over a calendar year.</p> <p>Item III-B</p> <p>Give the total number of discrete ponds or raceways in your facility. Under "other," give a descriptive name of any structure which is not a pond or a raceway but which results in discharge to waters of the United States.</p> <p>Item III-C</p> <p>Use names for receiving water and source of water which correspond to the map submitted in Item XI of Form 1.</p> <p>Item III-D</p> <p>The names of fish species should be proper, common, or scientific names as given in special Publication No. 6 of the American Fisheries Society, "A List of Common and Scientific Names of Fishes from the United States and Canada." The values given for total weight produced by your facility per year and the maximum weight present at any one time should be representative of your normal operation.</p> <p>Item III-E</p> <p>The value given for maximum monthly pounds of food should be representative of your normal operation.</p> <p>Item IV</p> <p>The Clean Water Act provides for severe penalties for submitting false information on this application form.</p> <p>Section 309(C)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application... shall upon conviction, be punished by a fine of no more than \$10,000 or by imprisonment for not more than six months, or both."</p> <p>Federal regulations require the certification to be signed as follows:</p> <ul style="list-style-type: none"> A. For corporation, by a principal executive officer of at least the level of vice president. B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or C. For a municipality, State, federal, or other public facility, by either a principal executive officer or ranking elected official. <p>Paper Reduction Act Notice</p> <p>The public reporting and recordkeeping burden for this collection of information is estimated to average 9.5 hours per response. The public reporting and recordkeeping burden for development of the nutrient management plan to be submitted with the form is estimated to average 58 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.</p>
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**VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
CONCENTRATED ANIMAL FEEDING OPERATIONS**

PERMIT APPLICATION ADDENDUM

PLEASE TYPE OR PRINT ALL INFORMATION - ALL PARTS OF THIS FORM MUST BE COMPLETED

For DEQ Use Only:
Complete: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Initials: _____
Date: _____

I. CONTACT INFORMATION

Owner Name:	Murphy-Brown LLC				
Mailing Address:	P.O. Box 1240				
City:	Waverly	State:	Virginia	Zip Code:	23890
E-Mail Address:	robritt@murphybrownllc.com				
Business Phone:	(804) 834-2109	Mobile Phone:	(804) 731-9603	Home Phone:	
Best day of the week & time to contact the applicant:	Day(s)		Time(s)		<input type="checkbox"/> AM
	Mon.- Fri.		8:00am – 5:00pm		<input type="checkbox"/> PM

II. FARM/FACILITY INFORMATION

Farm/Facility Name:	Murphy-Brown LLC Farm 16 and 17		
Location:	1617 Hunnington Road, Waverly, VA, 23890		
Does Farm/Facility have an existing permit?	<input checked="" type="checkbox"/> Yes	If yes, Permit Number:	VPA00577
	<input type="checkbox"/> No		

III. FARM OPERATING MANUAL

A. Operating Manual been developed for this facility? Yes No

B. If yes, provide the date of the last review/revision of the Farm Operating Manual. Date: _____

C. Manual (if already developed) is attached:
The attached copy may be a hard copy or an electronic copy.

A copy of the
 Yes No.

IV. GROUNDWATER MONITORING PLAN

A. If the facility has an existing permit, is groundwater monitoring required? Yes No

B. If yes, has a Groundwater Monitoring Plan been developed for this facility? Yes No ? N/A

C. If yes, provide the date of the last review/revision of the Groundwater Monitoring Plan. Date: _____

D. If no, please explain: A geophysical evaluation of the site is underway to establish the framework for a new groundwater monitoring plan.

E.

A copy of the Plan (if already developed) is attached:
The attached copy may be a hard copy or an electronic copy.

? Yes No N/A

IV. DISCHARGE POINT AND BEST MANAGEMENT PRACTICES (BMPs) RELATED TO A DISCHARGE POINT

For each discharge point, provide the following information in the table below:

- a) a descriptive name of the discharge point;
- b) the latitude and longitude of its location;
- c) the name of the nearest potential receiving water;
- d) all areas contributing manure, litter, process wastewater, or storm water from the facility; and
- e) the treatment received or BMPs utilized, installed or constructed prior to the discharge point.

For DEQ Use: I.D. Number	Discharge Point	Latitude	Longitude	Name of Nearest Potential Receiving Water	Area Contributing Flow	Treatment or BMPs
1	37°7'30.36" N	77°4'5.43" W	Unnamed tributary to Otterdam Creek	Production Area – Farm 16	Secondary Containment	
2	37°7'36.26" N	77°4'8.65" W	Unnamed tributary to Otterdam Creek	Production Area – Farm 16	Secondary Containment	
3	37°7'28.37" N	77°4'30.36" W	Unnamed tributary to Otterdam Creek	Production Area – Farm 17	Secondary Containment	
4	37°7'15.53" N	77°4'35.17" W	Unnamed tributary to Otterdam Creek	Production Area – Farm 17	Secondary Containment	
5	37°7'18.45" N	77°4'26.89" W	Unnamed tributary to Otterdam Creek	Production Area – Farm 17	Secondary Containment	
6	37°7'20.13" N	77°4'25.14" W	Unnamed tributary to Otterdam Creek	Production Area – Farm 17	Secondary Containment	

V. BEST MANAGEMENT PRACTICES (BMPs)

- A. BMPs are utilized, installed or constructed for each of the areas listed in Section V above. Yes No
- B. If no, please explain: _____

- C. Attach to this Addendum, a description of the BMPs listed above in Section V or a copy of the Farm Operating Manual (if already developed). The attached copy may be a hard copy or an electronic copy.

VI. OTHER ATTACHMENTS (see instructions for requirements)

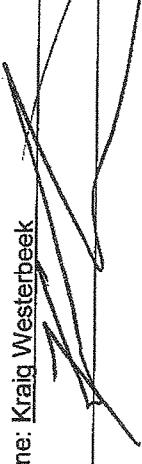
- A. The completed and signed Local Government Ordinance Form (LGOF) is attached: Yes ? No On file with DEQ
- B. A copy of the Department of Conservation and Recreation (DCR) Nutrient Management Plan (NMP) approval letter is attached: Yes ? No

VII. CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: Kraig Westerbeek

Official Title: Assistant Vice President Environment, Health, & Safety

Signature: 

Date: 5/14/2014

ADDITIONAL INFORMATION AND INSTRUCTIONS VPDES CAFO PERMIT APPLICATION ADDENDUM

GENERAL INFORMATION

This permit application addendum must be completed and submitted when an owner of a concentrated animal feeding operation makes application to the Department of Environmental Quality for a Virginia Pollutant Discharge Elimination (VPDES) Permit. Contact the nearest DEQ regional office if you have questions about completing this form. Please type or print all information. All parts of this form must be completed.

DEFINITION OF TERMS

Best Management Practice (BMP): means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to surface waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Process Wastewater: Process wastewater from an AFO means water directly or indirectly used in the operation of the AFO for any of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of the (confined) animals; or dust control. Process wastewater from an AFO also includes any water that comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs or bedding.

Production Area: means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage areas include but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions that separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

Storm Water: means storm water run-off, snow melt run-off, and surface run-off and drainage.

APPLICATION ADDENDUM INSTRUCTIONS

I. CONTACT INFORMATION

Give the name, mailing address, telephone numbers and e-mail address (if available) of the person to whom this permit will be issued. Please provide the best day of the week and time for DEQ to make contact with the owner during regular working hours.

II. FARM/FACILITY INFORMATION

Give the name of the farm or facility. Give the physical location for the animal feeding operation other than the owner's mailing address (e.g. Rt. 653, 1 mile west of Rt. 702). List the number of any expiring or currently effective permits issued to the concentrated animal feeding operation under the VPA or VPDES permit program.

III. FARM OPERATING MANUAL

Indicate if a Farm Operating Manual has been developed for this facility. If yes, provide the date of the last review/revision of the Farm Operating Manual. If the Manual has already been developed then indicate whether a copy of the Manual is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy.*

Permit requirements for development of a manual:

The Permittee shall develop and submit a Farm Operating Manual for approval by the Department within 90 days of the effective date of this permit. The Farm Operating Manual shall include at a minimum the following information:

- a. identification of land features or structures where storm water will likely leave the production area(s) and enter surface waters of the state;
- b. identification of land features or structures in the land application area(s) which will increase the risk of nitrogen and phosphorus transport to surface waters of the state; land features or structures include tile lines, pipes or ditches;
- c. practices and procedures which will be followed to ensure that the waste storage facilities are designed and operated in accordance with the permit;
- d. practices, procedures and applicable best management practices (BMPs) which will be utilized to ensure compliance with the requirements of this permit including but not limited to the following:
 - (1) if applicable, identification of the location of BMP(s) that are installed or will be installed at the CAFO facility, for BMP(s) that will be installed include the expected timeframe for installation;
 - (2) specification of appropriate maintenance that will be performed for each BMP(s);
 - (3) specification of the steps that will be taken in the event that a BMP(s) is found deficient,
 - (a) as a result of the visual inspections as required by the permit, or
 - (b) as a result of other routine inspections, as prescribed by the Farm Operating Manual, of BMP(s) utilized or installed in accordance with the permit.
- e. The steps shall include any actions that will be taken to correct deficiencies in accordance with the permit.
- e. practices and procedures which will be followed to ensure that all equipment needed for the proper operation of the permitted facilities is maintained in good working order, including but not limited to the following:
 - (1) retention of the equipment manufacturer's operation and maintenance manuals or other reference source to allow for timely maintenance and prompt repair of equipment when appropriate; and
 - (2) specification of the frequencies of inspections in order to detect leaks on equipment used for liquid manure handling and land application; and
- f. an emergency plan which includes appropriate procedures for employees to follow in case of an emergency such as; an unauthorized discharge of manure, poultry waste, from the production area or catastrophic animal mortality. The emergency plan must include appropriate information for assistance with the particular emergency and must include contact information for local, state and federal agencies required to be notified in the case of any of the above mentioned events.

The Permittee shall operate the CAFO facility in accordance with the approved Farm Operating Manual which becomes an enforceable part of the permit. Any changes in those practices and procedures shall be documented and submitted to the Department for staff approval within 90 days of the effective date of the changes. The existing manual shall continue to be implemented until the revised manual is approved by the Department. Upon approval of submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the approved manual shall be deemed a violation of the permit.

IV. GROUNDWATER MONITORING PLAN

If the facility has an existing permit, indicate whether groundwater monitoring is required. If groundwater monitoring is required, indicate if a groundwater monitoring plan has been developed for this facility. If yes, provide the date of the last review/revision of the plan. If a plan has not been developed, please explain why the plan has not been developed. If the plan has already been developed then indicate whether a copy of the plan is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy.*

Permit requirements for development of a plan:

The Permittee shall develop and submit a Groundwater Monitoring Plan for approval by the Department within 90 days of the effective date of this permit. The Groundwater Monitoring Plan shall include at a minimum the following information:

- (1) Procedures to ensure appropriate methods and practices are being used when monitoring groundwater, and
- (2) Procedures to ensure appropriate measures are taken where monitoring results demonstrate potential noncompliance with the permit and the approved monitoring plan.

V. DISCHARGE POINT AND BEST MANAGEMENT PRACTICES (BMPs) RELATED TO A DISCHARGE POINT

For each discharge point, provide the following information in the table below:

- a) a descriptive name of the discharge point;
- b) the latitude and longitude of its location;
- c) the name of the nearest potential receiving water;
- d) all areas contributing manure, litter, process wastewater, or storm water from the facility; and
- e) the treatment received or BMPs utilized, installed or constructed prior to the discharge point.

VI. BEST MANAGEMENT PRACTICES (BMPs)

If the facility has an existing permit, indicate whether groundwater monitoring is required. If groundwater monitoring is required, indicate if a groundwater monitoring plan has been developed for this facility. If yes, provide the date of the last review/revision of the plan. If a plan has not been developed, please explain why the plan has not been developed. If the plan has already been developed then indicate whether a copy of the plan is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy*

VII. OTHER ATTACHMENTS

Local Government Ordinance Form (LGOF)

State Law requires that the owner of any proposed pollutant management activities or those which have not previously been issued a valid VPA or VPDES permit must attach to the permit application, the completed LGOF. The LGOF is the notification from the governing body of the county, city or town where the operation is located that the operation is consistent with all ordinances adopted pursuant to Chapter 22 (§ 15.2-2200 et seq.) of Title 15.2 of the Code of Virginia.

Nutrient Management Plan (NMP) Approval Letter

A copy of the letter from the Virginia Department of Conservation and Recreation (DCR) approving the operation's NMP and certifying that the NMP was developed by a certified nutrient management planner in accordance with §10.1-104.2 of the Code of Virginia must be attached to the permit application. However, if a current NMP approval letter is on file at the DEQ regional office then it is not necessary to attach the NMP approval letter.

VIII. CERTIFICATION STATEMENT

The Certification must bear an original signature in ink, photocopies are not acceptable. State regulations require the permit application to be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

BMP Description – Secondary Containment

The BMP is a grass covered earthen containment structure that collects runoff from the production area. The structure has a manually operated valve that is maintained as normally closed. The BMP is inspected daily by the farm production staff. Once water collects in the structure it is visually inspected to ensure it does not contain any contaminants and it released. The BMP has an emergency spillway for structural integrity during extreme rainfall events.

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT CONCENTRATED ANIMAL FEEDING OPERATION

Permit Application Addendum

Murphy-Brown LLC
Farms 16 and 17
Permit VPA 00577

VIII.B MORTALITY DISPOSAL METHODS

The mortality disposal method utilized for this site is rendering. Mortality is removed from the Barn and placed in a mortality ben for pickup and removal from the site. The mortality ben is a synthetic container with a lid. The dead box is picked up and emptied daily by truck, the contents of the box are delivered to the rendering facility. In the event unforeseen circumstances prevent daily pick up of mortality, the mortality is held inside the barn until daily removal can resume.

XI. CHEMICAL HANDLING METHODS

Murphy-Brown LLC maintains a list of all chemicals used on its facilities. The list of hazardous chemical used by Murphy-Brown is maintained by a third party contractor. The contractor provides emergency information for all products used by the company. This includes Material Safety Data Sheets outlining the manufactures guidelines for handling, storage, and disposal. Information is available 24 hours a day for all worksites within the Murphy-Brown organization. Employees are trained to handle, store, and dispose of chemicals pre the manufactures label. Chemicals are not disposed in any manure, process waste water or storm water.

Douglas W. Domenech
Secretary of Natural Resources



David A. Johnson
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street
Richmond, Virginia 23219-2010
(804) 786-1712

July 24, 2012

Mr. R. O. Britt
Murphy-Brown Farms 8516 and 8517
P.O. Box 1240
Waverly, VA 23890

Dear Mr. Britt,

Your nutrient management plan (NMP), dated 7/20/2012, for a 21000 head swine operation has been approved by the Virginia Department of Conservation and Recreation for coverage under a Virginia Pollution Abatement (VPA) or Virginia Pollutant Discharge Elimination System (VPDES) permit. Your NMP was written by a nutrient management planner certified by the Virginia Department of Conservation and Recreation.

A copy of this letter must be kept with your nutrient management plan. A copy of this letter and a copy of the approved plan must be sent to the Piedmont Regional Office of the Virginia Department of Environmental Quality (DEQ).

It should be noted that this plan expires 7/20/2015. We recommend the process of revising this nutrient management plan begin at least six months prior to the expiration date.

If you have any questions concerning this letter, please feel free to contact me at bobby.long@dcr.virginia.gov or (434) 547-8172.

Sincerely,

A handwritten signature in cursive ink that reads "Bobby Long".

Bobby Long
Nutrient Management Coordinator – Animal Waste
Division of Stormwater Management

cc: Tim Sexton, DCR Nutrient Management Program Manager
Kurt Elmer, Murphy-Brown LLC
DEQ Piedmont Regional Office

NUTRIENT MANAGEMENT PLAN IDENTIFICATION

Operator
Murphy Brown LLC
434 East Main Street
Waverly, VA 23890
804-834-2109

Integrator:None

Farm Coordinates
Easting: 4110400, Northing: 315600, zone: 17

Watershed Summary
watershed: CU56
county: Surry

Nutrient Management Planner
Kurt Elmer
4547 Otterdam Rd. Waverly VA. 23890

Certification Code: 571

Acreage Use Summary
Total Acreage in this plan: 280.9
Cropland: 177.9
Hayland: 103.
Pasture: 0.
Specialty: 0.

Livestock Summary
Beef Cattle 0
Dairy Cattle 0
Poultry 0
Swine 21000
Other 0

Manure Production Balance					
	Imported	Produced	Exported	Used	Net
kgals	0.	28937.6	0.	30538.8	-1601.1
tons	0.	0.	0.	0.	0.

*Plan written 7/20/2012
Valid until 7/20/2015*

Signature: _____
Planner _____ date _____

Murphy Brown LLC Farms 8516 & 8517 Narrative
Three Year NMP Revision
Kurt Elmer (Cert. #575)

This nutrient management plan is an update for Murphy-Brown LLC farms 8516 and 8517; covered by permit number VPA00577. These farms are located northeast of Waverly Virginia at the intersections of Rt. 607 (Huntington Rd.) and Rt. 612 (Otterdam Rd.) in Surry County. This plan also includes spread agreement land owned by Wayne Chappell which is located at the intersections of Rt. 607 (Huntington Rd.) and Rt. 612 (Otterdam Rd.) in Surry County directly opposite of the Murphy-Brown LLC site. The spread agreement fields are denoted by the prefix "Chap" in this NMP.

Swine effluent is stored and treated at the site by a two primary anaerobic lagoons and one secondary anaerobic lagoon. Under normal circumstances, effluent from any of the three lagoons can be land applied with irrigation equipment to corn, wheat, soybeans, double crop grain sorghum, bermuda grass hay and small grain hay. Nutrient content of the primary and secondary lagoons on this site are analyzed in the months of March, June and September every year. The most current waste analysis is utilized to calculate nutrient application rates to the crops.

The Murphy-Brown LLC site has approximately 212 acres of crop and hay land for effluent applications included in this NMP. During the life of this plan commercial fertilizer may be used in conjunction with effluent applications to supplement crop nutrient needs. Any commercial fertilizer application will be included in the application records for the farm and will not exceed the nutrient recommendations in this NMP.

A total of 69 acres of crop land in this NMP are owned by Wayne Chappell. These acres are to be utilized for effluent applications on a limited basis. Therefore; this plan has been written to only include commercial fertilizer applications on these acres. Effluent applications to these fields will only be applied as a per-plant application no more than 30 days prior to planting. Pre-plant applications of effluent on corn and soybeans may not exceed 40% of the total nitrogen needs for the crop. All effluent applications to these acres will be included in the application records and deducted from the crops nutrient needs before commercial fertilizer applications are to be made.

Murphy-Brown LLC has adopted two new cropping rotation systems that are not addressed in the special conditions manure spreading schedule for swine; double crop grain sorghum and soybeans. Guidance provided by DCR (below) on manure application timing will be followed for the manure applications for these two crops.

Double-crop sorghum – (planted after Spring harvest of small grain) Effluent applications may begin after the small grain harvest and no more than 30 days prior to planting of the grain sorghum. Effluent applications may continue until $\frac{1}{2}$ of the plants in the field have headed but not later than August 31. Total N applied cannot exceed nutrient needs less the residual N from previous effluent applications, legumes, etc. as defined in Standards and Criteria, revised October 2005.

Soybeans – (double crop and full season) Effluent applications may begin no more than 30 days prior to planting of the soybeans. However, effluent application is not recommended prior to growth stage V6 (six unfolded trifoliate leaves). Nitrogen needs will be established using expected yield for corn based on the soil productivity for the field. Effluent applications may continue until growth stage R6 (full-seed stage) but not later than September 30.

Nutrient Management Plan Balance Sheet
(Summer, 2012-Summer, 2015)
Murphy Brown LLC Farms 8516 & 8517
Planner: Kurt Elmer (cert. No. 571)

Tract: 611 Location: Surry
(N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac)	Yr. Crop	Needs N-P-K (lbs/acre)	Leg /Man Resid	Manufacturer Rate & Type (season)	Rate (d)	Man/Bios N-P-K (lbs/acre)	Net = Needs - applied N-P-K (lbs/acre)	Sum P rem cred	Commercial N-P-K (lbs/acre)	Notes
3/B(N)	28/28	2012 Bermudagrass hay mt.	270-0-0	0/0	134.6k 8516 P(Su)	N/A	270-136-1338	0-(135)-(1340)	N/A		1,2
	2013	Wheat (silage) Bermudagrass hay mt.	85-0-0 270-0-0	0/0 0/15	42.3k 8516 P(Fa) 127.1k 8516 P(Sp)	N/A N/A	85-43-420 255-128-1263	0-(180)-(1760) 0-(310)-(3025)	N/A N/A		1,2,3 1,2
	2014	Wheat (silage) Bermudagrass hay mt.	85-0-0 270-0-0	0/0 0/18	42.3k 8516 P(Fa) 125.6k 8516 P(Sp)	N/A N/A	85-43-420 252-127-1248	0-(355)-(3445) 0-(480)-(4695)	N/A N/A		1,2,3 1,2
	2015	Wheat (silage) Bermudagrass hay mt.	85-0-0 270-0-0	0/0 0/19	42.3k 8516 P(Fa) 125.6k 8516 P(Sp)	N/A N/A	85-43-420 251-126-1242	0-(525)-(5115) 0-(650)-(6360)	N/A N/A		1,2,3 1,2
1/C1(N)	17/17	2012 Sorghum (grain) Wheat (cover) Corn (grain) Wheat (grain) Sorghum (grain) Wheat (cover) Corn (grain)	90-30-30 0-0-0 130-30-30 100-30-30 90-30-30 0-0-0 130-30-30	0/0 0/0 0/6 0/0 0/10 0/0 0/7	44.8k 8516 P(Su) 61.9k 8516 P(Sp) 49.8k 8516 P(Fa) 39.8k 8516 P(Sp)	N/A N/A N/A N/A	90-45-445 124-63-615 100-50-495 80-40-396	0-(15)-(415) 0-(50)-(1000) 0-(70)-(1465) 0-(80)-(1830)	N/A N/A N/A N/A		1,2
								0-(80)-(1830)	N/A		1,2,4,5,6 1,2,3,7 1,2
								0-(110)-(2410)	N/A		1,2,4,5,6
1/C2(N)	28/28	2012 Sorghum (grain) Wheat (cover) Corn (grain) Wheat (grain) Sorghum (grain) Wheat (cover) Corn (grain)	110-20-30 0-0-0 140-20-30 100-20-30 110-20-30 0-0-0 140-20-30	0/0 0/0 0/7 0/0 0/12 0/0 0/9	53.7k 8517 P(Su) 65.6k 8517 P(Sp) 48.6k 8517 P(Fa) 48.6k 8517 P(Sp)	N/A N/A N/A N/A	110-43-534 133-52-646 98-38-477 98-38-477	0-(25)-(505) 0-(25)-(505) 0-(55)-(1120) 0-(75)-(1565)	N/A N/A N/A N/A		1,2
								0-(95)-(2010)	N/A		1,2,4,5,6 1,2,3,7 1,2
								0-(95)-(2010)	N/A		1,2,4,5,6

Commercial Application Methods:
br - Broadcast ba - Banded sd - Sidedress

Notes:

- 1 Do Not Exceed 0.60" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 2 Commercial fertilizer applications may be used in addition to or in place of organic fertilizer applications to supplement crop needs and meet yield goals. Total nutrient applications shall not exceed crop needs.
- 3 Small grain applications should be split so that half is applied in Fall/Early Winter and half in Early Spring.
- 4 Side-dress N with planter.
- 5 Recommended pre-side-dress soil nitrate test prior to side-dress application of N when corn is 10"-15" tall at the whorl.

6 Apply side-dress N when corn is between 12" and 24" tall.

7 For intensive management of wheat, pages 72-76 of the Standards and Criteria (pages attached), should be used.

Tract: 7150
(N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. Name	Site (ac) Total/ Used	Yr.	Crop	Needs N+P-K (lbs/ac)	Leg Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N+P-K (lbs/ac)	Net = Needs - applied N+P-K (lbs/ac)	Sum P rem ained	Commercial N+P-K (lbs/ac)	Notes
2/A(N)	24/24	2012	Corn (grain)	100-30-0	0/0	49.8k 8516 P(Su)	N/A	100-50-495	0-(20)-(495)	N/A		1,2,3,4,5
		2013	Wheat (grain) Sorghum (grain)	100-30-0 90-30-0	0/0 0/0	49.8k 8516 P(Fa) 44.8k 8516 P(Su)	N/A N/A	100-50-495 90-45-445	0-(40)-(990) 0-(55)-(1435)	N/A N/A		1,2,6,7
		2014	Wheat (cover)	0-0-0	0/0				0-(55)-(1435)	N/A		1,2
		2014	Corn (grain)	100-30-0	0/7	46.3k 8516 P(Sp)	N/A	93-47-460	0-(70)-(1895)	N/A		1,2,3,4,5
		2015	Wheat (grain) Sorghum (grain)	100-30-0 90-30-0	0/0 0/10	49.8k 8516 P(Fa) 40.4k 8516 P(Sp)	N/A N/A	100-50-495 80-40-398	0-(90)-(2390) 0-(100)-(2790)	N/A N/A		1,2,6,7
1/D1(N)	40/40	2012	Corn (grain)	120-40-0	0/0	59.8k 8516 P(Su)	N/A	120-60-594	0-(20)-(595)	N/A		8,2,3,4,5
		2013	Wheat (grain) Sorghum (grain)	100-40-0 90-40-0	0/0 0/0	49.8k 8516 P(Fa) 44.8k 8516 P(Su)	N/A N/A	100-50-495 90-45-445	0-(30)-(1090) 0-(35)-(1535)	N/A N/A		8,2,6,7
		2014	Wheat (cover)	0-0-0	0/0				0-(35)-(1535)	N/A		8,2
		2014	Corn (grain)	120-40-0	0/7	56.1k 8516 P(Sp)	N/A	112-57-558	0-(50)-(2095)	N/A		8,2,3,4,5
		2015	Wheat (grain) Sorghum (grain)	100-40-0 90-40-0	0/0 0/11	49.8k 8516 P(Fa) 39.6k 8516 P(Sp)	N/A N/A	100-50-495 79-40-394	0-(60)-(2590) 0-(60)-(2985)	N/A N/A		8,2,6,7
1/D2(N)	75/75	2012	Bermudagrass hay mt.	235-0-0	0/0	117.2k 8516 P(Su)	N/A	235-118- 1165	0-(120)-(1165)	N/A		8,2
		2013	Wheat (silage) Bermudagrass hay mt.	85-0-0 235-0-0	0/0 0/14	42.3k 8516 P(Fa) 110.8k 8516 P(Sp)	N/A N/A	85-43-420 221-111-	0-(165)-(1585) 0-(275)-(2680)	N/A N/A		9,2,6
		2014	Wheat (silage) Bermudagrass hay mt.	85-0-0 235-0-0	0/0 0/16	42.3k 8516 P(Fa) 109.8k 8516 P(Sp)	N/A N/A	85-43-420 219-110-	0-(320)-(3100) 0-(430)-(4185)	N/A N/A		9,2,6
		2015	Wheat (silage) Bermudagrass hay mt.	85-0-0 235-0-0	0/0 0/17	42.3k 8516 P(Fa) 108.4k 8516 P(Sp)	N/A N/A	85-43-420 217-109-	0-(475)-(4605) 0-(585)-(5680)	N/A N/A		9,2,6
								1077				9,2

Commercial Application Methods:
br - Broadcast ba - Banded sd - Sidedress

Notes:

- 1 Do Not Exceed 0.90" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 2 Commercial fertilizer applications may be used in addition to or in place of organic fertilizer applications to supplement crop needs and meet yield goals. Total nutrient applications shall not exceed crop needs.
- 3 Side-dress N with planter.
- 4 Recommended pre-side-dress soil nitrate test prior to side-dress application of N when corn is 10"-15" tall at the whorl.
- 5 Apply side-dress N when corn is between 12" and 24" tall.
- 6 Small grain applications should be split so that half is applied in Fall/Early Winter and half in Early Spring.
- 7 For intensive management of wheat, pages 72-76 of the Standards and Criteria (pages attached), should be used.
- 8 Do Not Exceed 0.50" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 9 Do Not Exceed 0.60" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.

Tract: 7176 Location: Surry
 (N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSN No./Name	Size (ac)	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg Man Resid	Mature/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem ced	Commercial N-P-K (lbs/ac)	Notes
1/Chap 3(N)	15/15	2012	Soybeans (FS)	0-60-60	0/0			0-60-60	N/A	0-60-60(br)		
		2013	Rye (cover)	0-0-0	14/0			(15)-0-0	N/A	100-40-60(sd)	1,2,3,4	
		2013	Corn (grain)	100-40-60	0/0			100-40-60	N/A	100-40-60(sd)		
		2014	Rye (cover)	0-0-0	0/0			0-0-0	N/A	0-40-60(br)	1,4	
		2014	Soybeans (FS)	30-40-60	0/0			30-40-60	N/A	0-40-60(br)	1,4	
3/Chap 4(N)	19/19	2012	Rye (cover)	0-0-0	14/0			(15)-0-0	N/A	100-40-60(sd)	1,2,3,4	
		2012	Soybeans (FS)	0-60-60	0/0			100-40-60	N/A	100-40-60(sd)		
		2013	Rye (cover)	0-0-0	14/0			0-60-60	N/A	0-60-60(br)		
		2013	Corn (grain)	100-80-40	0/0			(15)-0-0	N/A	100-80-40		
		2014	Rye (cover)	0-0-0	0/0			100-80-40	N/A	100-80-40(sd)	1,2,3,4	
2/Chap 5(N)	2/2	2012	Soybeans (FS)	0-60-60	0/0			(15)-0-0	N/A	0-80-40(br)	1,4	
		2012	Rye (cover)	0-0-0	14/0			0-0-0	N/A	0-80-40(br)	1,4	
		2013	Corn (grain)	100-60-60	0/0			30-80-40	N/A	0-80-40(br)	1,4	
		2014	Rye (cover)	0-0-0	0/0			(15)-0-0	N/A	0-80-40(br)	1,4	
		2015	Corn (grain)	100-80-40	0/0			100-80-40	N/A	100-80-40(sd)	1,2,3,4	
4/Chap 6(N)	5/5	2012	Soybeans (FS)	0-60-60	0/0			0-60-60	N/A	0-60-60(br)		
		2012	Rye (cover)	0-0-0	14/0			(15)-0-0	N/A	100-60-60(sd)	1,2,3,4	
		2013	Corn (grain)	100-60-60	0/0			100-60-60	N/A	100-60-60(sd)		
		2014	Rye (cover)	0-0-0	0/0			0-0-0	N/A	0-60-60(br)	1,4	
		2015	Soybeans (FS)	30-60-60	0/0			30-60-60	N/A	0-60-60(br)	1,4	
		2012	Rye (cover)	0-0-0	14/0			(15)-0-0	N/A	100-60-60(sd)	1,2,3,4	
		2013	Corn (grain)	100-60-60	0/0			100-60-60	N/A	100-60-60(sd)		
		2014	Rye (cover)	0-0-0	0/0			0-0-0	N/A	0-60-60(br)	1,4	
		2015	Soybeans (FS)	40-60-60	0/0			40-60-60	N/A	0-60-60(br)	1,4	
		2015	Rye (cover)	0-0-0	16/0			(15)-0-0	N/A	130-60-60	1,2,3,4	
		2015	Corn (grain)	130-60-60	0/0			130-60-60	N/A	130-60-60(sd)		

Commercial Application Methods:

br - Broadcast ba - Banded sd - Sidedress

Notes:

- 1 Do Not Exceed 0.60" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 2 Recommended pre-side-dress soil nitrate test prior to side-dress application of N when corn is 10"-15" tall at the whorl.
- 3 Apply side-dress N when corn is between 12" and 24" tall.
- 4 Organic fertilizer applications may be used in addition to or in place of commercial fertilizer applications to supplement crop needs.

Tract: 7177
(N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No./Name	Size (ac)	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg Man Resid	Manure/Biosol Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = applied N-P-K (lbs/ac)	Sum P rem ced	Commercial N-P-K (lbs/ac)	Notes
1/Chap 1(N)	23/23	2012	Soybeans (FS)	0-60-60	0/0			0-60-60	(15)-0-0	N/A	0-60-60(br)	
		2013	Rye (cover)	0-0-0	15/0			120-40-40	N/A	N/A	120-40-40(sd)	1,2,3,4
			Com (grain)	120-40-40	0/0			0-0-0	N/A	N/A		
		2014	Rye (cover)	0-0-0	0/0			30-40-40	N/A	N/A	0-40-40(br)	1,4
			Soybeans (FS)	30-40-40	0/0			(15)-0-0	N/A	N/A		
		2015	Rye (cover)	0-0-0	15/0			120-40-40	N/A	N/A	120-40-40(br)	1,2,3,4
			Com (grain)	120-40-40	0/0							
2/Chap 2(N)	5/5	2012	Soybeans (FS)	0-60-60	0/0			0-60-60	(15)-0-0	N/A	0-60-60(br)	
		2013	Rye (cover)	0-0-0	17/0			120-40-40	N/A	N/A	120-40-40(sd)	1,2,3,4
			Com (grain)	120-40-40	0/0			0-0-0	N/A	N/A		
		2014	Rye (cover)	0-0-0	0/0			40-40-40	N/A	N/A	0-40-40(br)	1,4
			Soybeans (FS)	40-40-40	0/0			(15)-0-0	N/A	N/A		
		2015	Rye (cover)	0-0-0	17/0			120-40-40	N/A	N/A	120-40-40(sd)	1,2,3,4
			Com (grain)	120-40-40	0/0							

Commercial Application Methods:

br - Broadcast ba - Banded sd - Sidedress

Notes:

- 1 Do Not Exceed 0.60" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 2 Recommended pre-side-dress soil nitrate test prior to side-dress application of N when corn is 10"-15" tall at the whorl.
- 3 Apply side-dress N when corn is between 12" and 24" tall.
- 4 Organic fertilizer applications may be used in addition to or in place of commercial fertilizer applications to supplement crop needs.

Soil Test Summary

Tract	Field	Acre	Date	P2O5	K2O	Lab	Soil pH	Lime Date	rec. lime tons/Ac
611	B	28	2011-Fa	VH (135 P lbs/acre)	VH (564 K lbs/acre)	Virginia Tech	7.1		
611	C1	17	2011-Fa	H (82 P lbs/acre)	H (252 K lbs/acre)	Virginia Tech	5.9		
611	C2	28	2011-Fa	H+ (105 P lbs/acre)	H (216 K lbs/acre)	Virginia Tech	6.4	2012Su	0.5
7150	A	24	2011-Fa	H (82 P lbs/acre)	VH (409 K lbs/acre)	Virginia Tech	6.4		
7150	D1	40	2011-Fa	H- (55 P lbs/acre)	VH (785 K lbs/acre)	Virginia Tech	7.		
7150	D2	75	2011-Fa	VH (115 P lbs/acre)	VH (1260 K lbs/acre)	Virginia Tech	7.7		
7176	Chap 3	15	2012-Wi	H- (51 P lbs/acre)	M (101 K lbs/acre)	Virginia Tech	6.8		
7176	Chap 4	19	2012-Wi	M- (19 P lbs/acre)	M+ (156 K lbs/acre)	Virginia Tech	6.8		
7176	Chap 5	2	2012-Wi	M (25 P lbs/acre)	M (137 K lbs/acre)	Virginia Tech	6.3		
7176	Chap 6	5	2012-Wi	M (25 P lbs/acre)	M (137 K lbs/acre)	Virginia Tech	6.3		
7177	Chap 1	23	2012-Wi	M+ (32 P lbs/acre)	M+ (164 K lbs/acre)	Virginia Tech	6.6		
7177	Chap 2	5	2012-Wi	M+ (32 P lbs/acre)	M+ (164 K lbs/acre)	Virginia Tech	6.6		

Manure Production Summary

Manure Name: 8516 Primary

Animal Summary
Feeder Swine: 10500

Manure Storage Capacity: 15977. kgals

Manure Analysis:

TKN: 4.01
P2O5: 1.01
NH4: 3.42
K2O: 9.94

Plant Available Nutrients:

Immediate Incorporation:

3.37 lbs N
1.01 lbs P2O5
9.94 lbs K2O

Surface Applied:

1.83 lbs N
1.01 lbs P2O5
9.94 lbs K2O

Residual N:

yr 1: .07 lbs
yr 2: .03 lbs
yr 3: .01 lbs

Manure Production

Dec-Feb	3432
Mar-May	3432
Jun-Aug	3432
Sep-Nov	3432

Total Produced: 13729
Manure Sold/yr: 0
Manure purch./yr: 0

Liquid Manure Production Details

production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (# confined)[animal-lbs/animal] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(10500)	145.0	2.74	2.0	11683.4

Net Precipitation Excess

NPE [kgal/yr] = {precip (51.[in/yr]) - evap (40.[in/yr])} * pit/lagoon factor (0.9) * surface area (218818.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 2045.95[kgal/yr]

Manure Name: 8516 Secondary*Animal Summary*
Feeder Swine: 0*Manure Storage Capacity:* 7458. kgals*Manure Analysis:*TKN: 1.42
P2O5: .76
NH4: 1.0
K2O: 7.94*Plant Available Nutrients:*
Immediate Incorporation:.90 lbs N
.76 lbs P2O5
7.94 lbs K2O
Surface Applied:
.45 lbs N
.76 lbs P2O5
7.94 lbs K2OResidual N:yr 1: .05 lbs
yr 2: .02 lbs
yr 3: .01 lbs*Manure Production*
Dec-Feb 256
Mar-May 256
Jun-Aug 256
Sep-Nov 256Total Produced: 1023
Manure Sold/yr: 0
Manure purch./yr: 0*Liquid Manure Production Details*
production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gall] + (#

confined)[animal] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#)	confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(0)		145.0	2.74	2.0	0.0

Net Precipitation Excess
NPE [kgal/yr] = {precip (51.[in/yr]) - evap (40.[in/yr])} * pit/laagoon factor (0.9) * surface area (109414.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] *
(0.001)[kgal/gal] = 1023.02[kgal/yr]

Manure Name: 8517 Primary

Animal Summary
Feeder Swine: 10500

Manure Storage Capacity: 25399. kgals

Manure Analysis:

TKN: 4.09
P2O5: .8
NH4: 3.42
K2O: 9.94

*Plant Available Nutrients:*Immediate Incorporation:

3.41 lbs N

.80 lbs P2O5

9.94 lbs K2O

Surface Applied:

1.87 lbs N

.80 lbs P2O5

9.94 lbs K2O

Residual N:

yr 1: .08 lbs

yr 2: .03 lbs

yr 3: .01 lbs

Manure Production

Dec-Feb	3546
Mar-May	3546
Jun-Aug	3546
Sep-Nov	3546

Total Produced: 14185

Manure Sold/yr: 0

Manure purch./yr: 0

Liquid Manure Production Details
production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (#

confined)[animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(# confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(10500)	145.0	2.74	2.0	11683.4

$$\begin{aligned} \text{NPE [kgal/yr]} &= \{\text{precip (51.[in/yr])} - \text{evap (40.[in/yr])}\} * \text{pit/laagoon factor (0.9)} * \text{surface area (267590.[sq-ft])} * (1/12)[ft/in] * (7.48)[gal/cu-ft] * \\ (0.001)[kgal/gal] &= 2501.97[\text{kgal/yr}] \end{aligned}$$

Net Precipitation Excess

Manure Spreading Summary

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2012Su	8516 Primary	134.6 kgals	611	B	28	Bermudagrass (hay), maint	3821 kgals	3821 kgals
		44.8 kgals	611	C1	17	Sorghum (grain)	739 kgals	4560 kgals
		49.8 kgals	7150	A	24	Corn (grain)	1210 kgals	5771 kgals
		59.8 kgals	7150	D1	40	Corn (grain)	2392 kgals	8163 kgals
		117.2 kgals	7150	D2	75	Bermudagrass (hay), maint	8748 kgals	16906 kgals
		53.7 kgals	611	C2	28	Sorghum (grain)	1497 kgals	1497 kgals
2012Fa	8516 Primary	42.3 kgals	611	B	28	Wheat (silage)	1201 kgals	1201 kgals
		49.8 kgals	7150	A	24	Wheat (grain)	1210 kgals	2411 kgals
		49.8 kgals	7150	D1	40	Wheat (grain)	1992 kgals	4403 kgals
		42.3 kgals	7150	D2	75	Wheat (silage)	3156 kgals	7559 kgals
2013Sp	8516 Primary	127.1 kgals	611	B	28	Bermudagrass (hay), maint	3608 kgals	3608 kgals
		61.9 kgals	611	C1	17	Corn (grain)	1021 kgals	4630 kgals
		110.0 kgals	7150	D2	75	Bermudagrass (hay), maint	8206 kgals	12836 kgals
		65.0 kgals	611	C2	28	Corn (grain)	1812 kgals	1812 kgals
2013Fa	8516 Primary	42.3 kgals	611	B	28	Wheat (silage)	1201 kgals	1201 kgals
		49.8 kgals	611	C1	17	Wheat (grain)	822 kgals	2023 kgals
		42.3 kgals	7150	D2	75	Wheat (silage)	3156 kgals	5178 kgals
		48.0 kgals	611	C2	28	Wheat (grain)	1338 kgals	1338 kgals
2013Su	8516 Primary	44.8 kgals	7150	A	24	Sorghum (grain)	1089 kgals	1089 kgals
		44.8 kgals	7150	D1	40	Sorghum (grain)	1792 kgals	2881 kgals
2014Sp	8516 Primary	125.6 kgals	611	B	28	Bermudagrass (hay), maint	3566 kgals	3566 kgals
		39.8 kgals	611	C1	17	Sorghum (grain)	657 kgals	4222 kgals
		46.3 kgals	7150	A	24	Corn (grain)	1126 kgals	5348 kgals
		56.1 kgals	7150	D1	40	Corn (grain)	2244 kgals	7592 kgals
		109.0 kgals	7150	D2	75	Bermudagrass (hay), maint	8131 kgals	15723 kgals
		48.0 kgals	611	C2	28	Sorghum (grain)	1338 kgals	1338 kgals
2014Fa	8516 Primary	42.3 kgals	611	B	28	Wheat (silage)	1201 kgals	1201 kgals
		49.8 kgals	7150	A	24	Wheat (grain)	1210 kgals	2411 kgals
		49.8 kgals	7150	D1	40	Wheat (grain)	1992 kgals	4403 kgals
		42.3 kgals	7150	D2	75	Wheat (silage)	3156 kgals	7559 kgals
2015Sp	8516 Primary	125.0 kgals	611	B	28	Bermudagrass (hay), maint	3548 kgals	3549 kgals
		61.3 kgals	611	C1	17	Corn (grain)	1011 kgals	4560 kgals
		40.0 kgals	7150	A	24	Sorghum (grain)	972 kgals	5532 kgals

	39.6 kgals	7150		Sorghum (grain)	1584 kgals	7116 kgals
	108.4 kgals	7150		Bermudagrass (hay), maint	8087 kgals	15203 kgals
	64.1 kgals	611		Corn (grain)	1787 kgals	1787 kgals
8517 Primary			40			
		D1	75			
		D2	28			
		C2				

Application Summary Report

2012: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	B	28.4	134.6k 8516 (Su)				
7150	D2	74.6	117.2k 8516 (Su)				

2012: Wheat (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	B	28.4	42.3k 8516 (Fa)				
7150	D2	74.6	42.3k 8516 (Fa)				

2012: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	C1	16.5	44.8k 8516 (Su)				
7150	C2	27.9	53.7k 8517 (Su)				0.5 (Su)

2012: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7150	A	24.3	49.8k 8516 (Su)				
7150	D1	40.0	59.8k 8516 (Su)				

2012: Wheat (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7150	A	24.3	49.8k 8516 (Fa)				

D1	40.0	49.8k 8516 (Fa)
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2012: Soybeans (FS)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7176	Chap 3	14.7		0-60-60(Su)			
	Chap 4	19.2		0-60-60(Su)			
	Chap 5	2.3		0-60-60(Su)			
	Chap 6	5.1		0-60-60(Su)			
	Chap 1	22.7		0-60-60(Su)			
	Chap 2	5.2		0-60-60(Su)			

2013: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	B	28.4	127.1k 8516 (Sp)				
	D2	74.6	110.0k 8516 (Sp)				

2013: Wheat (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	B	28.4	42.3k 8516 (Fa)				
	D2	74.6	42.3k 8516 (Fa)				

2013: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	C1	16.5	61.9k 8516 (Sp)				
	C2	27.9	65.0k 8517 (Sp)				
7176	Chap 3	14.7		100-40-60(Sp)			
	Chap 4	19.2		100-80-40(Sp)			

	Chap 5	2.3		100-60-60(Sp)
	Chap 6	5.1		130-60-60(Sp)
7177	Chap 1	22.7		120-40-40(Sp)
	Chap 2	5.2		120-40-40(Sp)

2013: Wheat (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	C1	16.5	49.8k 8516 (Fa)				
	C2	27.9	48.0k 8517 (Fa)				

2013: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7150	A	24.3	44.8k 8516 (Su)				
	D1	40.0	44.8k 8516 (Su)				

2014: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	B	28.4	125.6k 8516 (Sp)				
7150	D2	74.6	109.0k 8516 (Sp)				

2014: Wheat (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	B	28.4	42.3k 8516 (Fa)				
7150	D2	74.6	42.3k 8516 (Fa)				

2014: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	C1	16.5	39.8k 8516 (Sp)				
	C2	27.9	48.0k 8517 (Sp)				

2014: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7150	A	24.3	46.3k 8516 (Sp)				
	D1	40.0	56.1k 8516 (Sp)				

2014: Wheat (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7150	A	24.3	49.8k 8516 (Fa)				
	D1	40.0	49.8k 8516 (Fa)				

2014: Soybeans (FS)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7176	Chap 3	14.7				0-40-60(Sp)	
	Chap 4	19.2				0-80-40(Sp)	
7177	Chap 5	2.3				0-60-60(Sp)	
	Chap 6	5.1				0-60-60(Sp)	
	Chap 1	22.7				0-40-40(Sp)	
	Chap 2	5.2				0-40-40(Sp)	

2015: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
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611	B	28.4	125.0k 8516 (Sp)
7150	D2	74.6	108.4k 8516 (Sp)

2015: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
611	C1	16.5	61.3k 8516 (Sp)				
	C2	27.9	64.1k 8517 (Sp)				
7176	Chap 3	14.7				100-40-60(Sp)	
	Chap 4	19.2				100-80-40(Sp)	
	Chap 5	2.3				100-60-60(Sp)	
	Chap 6	5.1				130-60-60(Sp)	
7177	Chap 1	22.7		120-40-40(Sp)			
	Chap 2	5.2				120-40-40(Sp)	

2015: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
7150	A	24.3	40.0k 8516 (Sp)				
	D1	40.0	39.6k 8516 (Sp)				

Farm Summary Report

Plan: Murphy Brown LLC Farms 8516 & 8517

Farm Name: Murphy Brown LLC Farms 8516 & 8517

Location: Surry

Specialist: Kurt Elmer

N-based Acres: 280.9

P-based Acres: 0.0

Tract Name: 611

FSA Number: 913

Location: Surry

Field Name: B

Total Acres: 28.39

Usable Acres: 28.39

FSA Number: 3

Tract: 611

Location: Surry

Slope Class: B

Hydrologic Group: C

Riparian buffer width: 450 ft

Distance to stream: 500 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation
P-Index value = 25.36

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.37 tons/acre

Soil Test Results:

DATE PH P K
Fa-2011 7.1 VH(135 P lbs/acre) VH(564 K lbs/acre)

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Soils:	PERCENT	SYMBOL	SOIL SERIES
85	14B	Emporia	
5	10B	Craven	
10	33B	Slagle	

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	5.0 tons	Bermudagrass (hay), maint. - No Till
2012-Fa	2.5 * tons	Wheat (silage) - No Till
2013-Sp	5.0 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.5 * tons	Wheat (silage) - No Till
2014-Sp	5.0 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.5 * tons	Wheat (silage) - No Till
2015-Sp	5.0 tons	Bermudagrass (hay), maint. - No Till

Field Name:

C1
Total Acres: 16.50 Usable Acres: 16.50

FSA Number: 1

Tract: 611

Location: Surry

Slope Class: B Hydrologic Group: C

Riparian buffer width: 450 ft
Distance to stream: 500 ft

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 14.4

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0

T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 1.93 tons/acre

Soil Test Results:

DATE	PH	P	K
Fa-2011	5.9	H(82 P lbs/acre)	H(252 K lbs/acre)

Soils:

	PERCENT	SYMBOL	SOIL SERIES
37	14B	Emporia	
38	15B	Emporia	
10	6B	Caroline	
15	35B	Uchee	

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	93.7 bushel(s)	Sorghum (grain) - No Till
2012-Fa	0.0	Wheat (cover) - No Till
2013-Sp	126.7 * bushel(s)	Corn (grain) - No Till
2013-Fa	53.9 bushel(s)	Wheat (grain) - No Till
2014-Sp	93.7 bushel(s)	Sorghum (grain) - No Till
2014-Fa	0.0	Wheat (cover) - No Till
2015-Sp	126.7 * bushel(s)	Corn (grain) - No Till

Field Name:

C2
Total Acres: 27.88 Usable Acres: 27.88

FSA Number: 1

Tract: 611

Location: Surry

Slope Class: B Hydrologic Group: C

Riparian buffer width: 450 ft
Distance to stream: 500 ft

P-Index Summary
N-based

Phosphorus Limit method: VA P-Index Calculation
P-Index value = 15.15

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 2.52 tons/acre

Soil Test Results:

DATE	PH	P	K
Fa-2011	6.4	H+(105 P lbs/acre)	H(216 K lbs/acre)

MOST RECENT LIME: Summer-2012 0.5 tons/acre

Soils:	PERCENT	SYMBOL	SOIL SERIES
50	26B	Nansemond	
50	6B	Caroline	

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	105.0 bushel(s)	Sorghum (grain) - No Till
2012-Fa	0.0	Wheat (cover) - No Till
2013-Sp	140.0 bushel(s)	Corn (grain) - No Till
2013-Fa	60.0 bushel(s)	Wheat (grain) - No Till
2014-Sp	105.0 bushel(s)	Sorghum (grain) - No Till
2014-Fa	0.0	Wheat (cover) - No Till
2015-Sp	140.0 bushel(s)	Corn (grain) - No Till

Tract Name: 7150
FSA Number: 913
Location: Surry

Field Name: A
Total Acres: 24.30 Usable Acres: 24.30
FSA Number: 2
Tract: 7150

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Location: Surry
Slope Class: B Hydrologic Group: C

Riparian buffer width: 950 ft
Distance to stream: 1000 ft

Conservation Practices:
Conservation tillage (>30% residue)

P-Index Summary

N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 12.5

%slope: 0.0
T factor: 0.0
P factor: 0.0

Slope Len: 0.
P factor: 1.0
Cmax: 0.000

R factor: 0.0
K factor: 0.0
Erosion: 0.47 tons/acre

Soil Test Results:
DATE PH P K
Fa-2011 6.4 H(82 P lbs/acre) VH(409 K lbs/acre)

Soils: PERCENT SYMBOL SOIL SERIES
100 5B Burrowsville

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	100.0 bushel(s)	Corn (grain) - No Till
2012-Fa	48.0 bushel(s)	Wheat (grain) - No Till
2013-Su	90.0 bushel(s)	Sorghum (grain) - No Till
2013-Fa	0.0	Wheat (cover) - No Till
2014-Sp	100.0 bushel(s)	Corn (grain) - No Till
2014-Fa	48.0 bushel(s)	Wheat (grain) - No Till
2015-Sp	90.0 bushel(s)	Sorghum (grain) - No Till

Field Name: D1
Total Acres: 40.00 **Usable Acres:** 40.00
FSA Number: 1
Tract: 7150
Location: Surry
Slope Class: B **Hydrologic Group:** B

Riparian buffer width: 450 ft
Distance to stream: 500 ft

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation
P-Index value = 15.07

%slope: 0.0 **Slope Len: 0.** R factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 K factor: 0.0
Erosion: 1.78 tons/acre

Soil Test Results:
DATE: PH P K
Fa-2011 7.0 H-(55 P lbs/acre) VH(785 K lbs/acre)

Soils:	PERCENT	SYMBOL	SOIL SERIES
35	24B	Montross	
40	28C	Nevarc Remlik	
15	28B	Nevarc Remlik	
10	10B	Craven	

Field Warnings:

Crop Rotation:
PLANTED YIELD CROP NAME
2012-Su 114.0 bushel(s) Corn (grain) - No Till
2012-Fa 52.6 * bushel(s) Wheat (grain) - No Till

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2013-Su 93.5 bushel(s) Sorghum (grain) - No Till
 2013-Fa 0.0 Wheat (cover) - No Till
 2014-Sp 114.0 bushel(s) Corn (grain) - No Till
 2014-Fa 52.6 * bushel(s) Wheat (grain) - No Till
 2015-Sp 93.5 bushel(s) Sorghum (grain) - No Till

Field Name: D2
Total Acres: 74.60 **Usable Acres:** 74.60
FSA Number: 1
Tract: 7150
Location: Surry
Slope Class: B **Hydrologic Group:** C

Riparian buffer width: 450 ft
 Distance to stream: 500 ft

Conservation Practices:
 Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation
 P-Index value = 23.09

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.56 tons/acre

Soil Test Results:
DATE PH P K
 Fa-2011 7.7 VH(115 P lbs/acre) VH(1260 K lbs/acre)

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Soils:
PERCENT SYMBOL SOIL SERIES
 30 10B Craven
 10 10C Craven
 60 24B Montross

Field Warnings:**Crop Rotation:**

PLANTED	YIELD	CROP NAME
2012-Su	2.5 tons	Bermudagrass (hay), maint. - No Till
2012-Fa	1.5 * tons	Wheat (silage) - No Till
2013-Sp	2.5 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	1.5 * tons	Wheat (silage) - No Till
2014-Sp	2.5 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	1.5 * tons	Wheat (silage) - No Till
2015-Sp	2.5 tons	Bermudagrass (hay), maint. - No Till

Tract Name:

7176

FSA Number:

1867

Location:

Surry

Field Name:

Chap 3

Total Acres:

14.67

Usable Acres:

14.67

FSA Number:

1

Tract:

7176

Location:

Surry

Slope Class:

B

Hydrologic Group:

C

Riparian buffer width: 0 ft
 Distance to stream: 0 ft

P-Index Summary**N-based****Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method**

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.0 tons/acre

Soil Test Results:

DATE	PH	P	K
Wi-2012	6.8	H-(51 P lbs/acre)	M(101 K lbs/acre)

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Soils:	PERCENT	SYMBOL	SOIL SERIES
10	26B	Nansemond	
20	35B	Uchee	
40	12B	Craven Slagle	
15	28C	Nevarc Remlik	
15	15B	Emporia	

Field Warnings:

Crop Rotation:	PLANTED	YIELD	CROP NAME
2012-Su	27.5 bushel(s)	Rye (cover)	Soybeans (FS) - No Till
2012-Fa	0.0	Rye	No Till
2013-Sp	105.9 bushel(s)	Corn (grain)	- No Till
2013-Fa	0.0	Rye (cover)	- No Till
2014-Sp	27.5 bushel(s)	Soybeans (FS)	- No Till
2014-Fa	0.0	Rye (cover)	- No Till
2015-Sp	105.9 bushel(s)	Corn (grain)	- No Till

Field Name:	Chap 4
Total Acres:	19.21
FSA Number:	3
Tract:	7176
Location:	Surry
Slope Class:	B
	Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.0 tons/acre

Soil Test Results:

DATE	PH	P	K
Wi-2012	6.8	M-(19 P lbs/acre)	M+(156 K lbs/acre)

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Soils:

	PERCENT	SYMBOL	SOIL SERIES
45	5B	Burrowsville	
25	28C	Nevarc Remlik	
15	14B	Emporia	
15	15B	Emporia	

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	28.9 bushel(s)	Soybeans (FS) - No Till
2012-Fa	0.0	Rye (cover) - No Till
2013-Sp	109.9 bushel(s)	Corn (grain) - No Till
2013-Fa	0.0	Rye (cover) - No Till
2014-Sp	28.9 bushel(s)	Soybeans (FS) - No Till
2014-Fa	0.0	Rye (cover) - No Till
2015-Sp	109.9 bushel(s)	Corn (grain) - No Till

Field Name:

Chap 5

Total Acres: 2.34 Usable Acres: 2.34

FSA Number: 2

Tract: 7176

Location: Surry

Slope Class: C Hydrologic Group: B

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0

T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.0 tons/acre

Soil Test Results:			
DATE	PH	P	K
Wi-2012	6.3	M(25 P lbs/acre)	M(137 K lbs/acre)

Soils:	PERCENT	SYMBOL	SOIL SERIES
85	28C	Nevarc Remlik	
15	14B	Emporia	

Field Warnings:
Environmentally Sensitive Soils due to:

Soils with potential for leaching based on soil texture or excessive drainage

Crop Rotation:	PLANTED	YIELD	CROP NAME
2012-Su	27.3 bushel(s)	Soybeans (FS)	- No Till
2012-Fa	0.0	Rye (cover)	- No Till
2013-Sp	106.0 bushel(s)	Corn (grain)	- No Till
2013-Fa	0.0	Rye (cover)	- No Till
2014-Sp	27.3 bushel(s)	Soybeans (FS)	- No Till
2014-Fa	0.0	Rye (cover)	- No Till
2015-Sp	106.0 bushel(s)	Corn (grain)	- No Till

Field Name:	Chap 6
Total Acres:	5.06
FSA Number:	4
Tract:	7176
Location:	Surry
Slope Class:	B
	Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

%slope: 0.0
T factor: 0.0
R factor: 1.0
Cmax: 0.000
Erosion: 0.0 tons/acre

Soil Test Results:
DATE PH P K
Wi-2012 6.3 M(25 P lbs/acre) M(137 K lbs/acre)

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Soils:

	PERCENT	SYMBOL	SOIL SERIES
50	33B	Slagle	
25	5B	Burrowsville	
25	28C	Nevarc Remlik	

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	32.5 bushel(s)	Soybeans (FS) - No Till
2012-Fa	0.0	Rye (cover) - No Till
2013-Sp	125.0 bushel(s)	Corn (grain) - No Till
2013-Fa	0.0	Rye (cover) - No Till
2014-Sp	32.5 bushel(s)	Soybeans (FS) - No Till
2014-Fa	0.0	Rye (cover) - No Till
2015-Sp	125.0 bushel(s)	Corn (grain) - No Till

Tract Name: 7177
FSA Number: 1867
Location: Surry

Field Name: Chap 1
Total Acres: 22.73
FSA Number: 1
Tract: 7177
Location: Surry

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

%slope: 0.0
T factor: 0.0
P factor: 0.0

Slope Len: 0.
P factor: 1.0

R factor: 0.0

Cmax: 0.000

K factor: 0.0

Erosion: 0.0 tons/acre

Soil Test Results:		
DATE	PH	P
Wi-2012	6.6	M+(32 P lbs/acre)

Soils:

	PERCENT	SYMBOL	SOIL SERIES
60		12B	Craven Slagle
20		14B	Emporia
20		26B	Nansemond

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	30.0 bushel(s)	Soybeans (FS) - No Till
2012-Fa	0.0	Rye (cover) - No Till
2013-Sp	114.0 bushel(s)	Corn (grain) - No Till
2013-Fa	0.0	Rye (cover) - No Till
2014-Sp	30.0 bushel(s)	Soybeans (FS) - No Till
2014-Fa	0.0	Rye (cover) - No Till
2015-Sp	114.0 bushel(s)	Corn (grain) - No Till

Field Name:

Chap 2
Total Acres: 5.22
FSA Number: 2
Usable Acres: 5.22

Tract: 7177 Location: Surry Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.0 tons/acre

Soil Test Results:

DATE	PH	P	K
Wi-2012	6.6	M+(32 P lbs/acre)	M+(164 K lbs/acre)

Soils:	PERCENT	SYMBOL	SOIL SERIES
	40	28C	Nevarc Remlik
	60	14B	Emporia

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	34.0 bushel(s)	Soybeans (FS) - No Till
2012-Fa	0.0	Rye (cover) - No Till
2013-Sp	124.0 bushel(s)	Corn (grain) - No Till
2013-Fa	0.0	Rye (cover) - No Till
2014-Sp	34.0 bushel(s)	Soybeans (FS) - No Till
2014-Fa	0.0	Rye (cover) - No Till
2015-Sp	124.0 bushel(s)	Corn (grain) - No Till

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Field Productivities for Major Crops

Tract Name	Tract/Field	Field Name	Acres	Predominant Soil Series	Corn	Small Grain	Alfalfa	Grass Hay	Environmental Warnings
611	913/3	B	28	Emporia	IIIa	II	III	II	II
	913/1	C1	17	Emporia	IIIb	II	III	II	II
	913/1	C2	28	Nansemond	IIIa	I	III	II	II
7150	913/2	A	24	Burrowsville	IVb	III	Not Suited	III	
	913/1	D1	40	Montross	IVa	III	Not Suited	IV	
	913/1	D2	75	Montross	IVa	III	Not Suited	III	
7176	1867/1	Chap 3	15	Craven	IVb	III	Not Suited	III	
	1867/3	Chap 4	19	Burrowsville	IVb	III	Not Suited	III	
	1867/2	Chap 5*	2	Nevarc	IVb	III	Not Suited	IV	High Leaching
7177	1867/4	Chap 6	5	Slagle	IVa	II	III	II	
	1867/1	Chap 1	23	Craven	IVa	III	III	III	
	1867/2	Chap 2	5	Emporia	IVa	II	III	III	

* Do not apply manure or biosolids more than 30 days prior to planting. Apply commercial fertilizer nitrogen to row crops in split spring applications.

Yield Range

Field Productivity Group	Corn Grain Bu/Acre	Barley/Intensive Wheat Bu/Acre	Std. Wheat Bu/Acre	Alfalfa Tons/Acre	Grass/Hay Tons/Acre
I	>170	>80	>64	>6	>4.0
II	150-170	70-80	56-64	4-6	3.5-4.0
III	130-150	60-70	48-56	<4	3.0-3.5
IV	100-130	50-60	40-48	NA	<3.0
V	<100	<50	<40	NA	NA

NUTRIENT MANAGEMENT PLAN IDENTIFICATION

Operator
Murphy Brown LLC
434 East Main Street
Waverly, VA 23890
804-834-2109

Integrator:None

Farm Coordinates
Easting: 4110400, Northing: 315600, zone: 17

Watershed Summary
watershed: CU56
county: Surry

Nutrient Management Planner
Kurt Elmer
4547 Otterdam Rd. Waverly VA. 23890

Certification Code: 575

Acreage Use Summary
Total Acreage in this plan: 280.9

Cropland: 177.9
Hayland: 103.
Pasture: 0.
Specialty: 0.

Livestock Summary

Beef Cattle	0
Dairy Cattle	0
Poultry	0
Swine	21000
Other	0

Manure Production Balance

	Imported	Produced	Exported	Used	Net
kgals	0.	28937.6	0.	30538.8	-1601.1
tons	0.	0.	0.	0.	0.

Plan written 7/20/2012
Valid until 7/20/2015

Signature: Kurt Elmer 7/18/12
Planner date